

CORRELATION BETWEEN THE SYMPTOMS OF DEPRESSION AND SEXUAL FUNCTION IN BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY

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ABSTRACT

Background. Symptoms of depression and sexual problems that occur among breast cancer patients are a rarely detected and get good handling. Therefore, an early detection for any psychological problems that may affect the sexual life of patients with breast cancer is needed so that the patients can have better life.

Aim. This study aims to assess the correlation between symptoms of depression and sexual function in women with breast cancer who undergo chemotherapy at Dr. Sardjito Hospital.

Method and Subjects. Research design was cross sectional. The study necquited 38 breast cancer patients in Tulip outpatients Cancer Clinic in Dr. Sardjito Hospital. Assessment of depressive symptoms used Beck Depression Inventory questionnaire and Female Sexual Function Index to assess sexual function.

Result. The results showed that the proportion of subjects aged 46-55 years at 55.2% followed by 36-45 years of age at 39.5% and aged 26-35 years by 5.3%. The mean age of subjects was 45.4 ± 6.5 years. Correlation between symptoms of depression with sexual function among participants was $r = -0.30$ with significance $p = 0.068$. Correlation between symptoms of depression with the domains of sexual function domain of desire ($r = -0.296$, $p = 0.072$), stimulation ($r = -0.470$, $p = 0.003$), lubrication ($r = -0.353$, $p = 0.030$), orgasm ($r = -0.223$, $p = 0.179$), satisfaction ($r = -0.233$, $p = 0.158$), pain ($r = -0.186$, $p = 0.262$).

Conclusion. The conclusion is that there is no correlation between symptoms of depression with sexual function.

Keywords: Depression symptoms, Breast Cancer, Sexual Dysfunction

I. INTRODUCTION

Being diagnosed as having cancer is one of great stressors that may be experienced by someone and it may lead to distress with the appearance of symptoms of depression. Symptoms of depression are commonly found in cancer patients. Almost 50% breast cancer patients have symptoms of depression. These symptoms are well correlated with the low quality of life and poor compliance for therapy in breast cancer patients.¹

Other observational research involving 222 women having early stage breast cancers revealed a prevalence of depression and anxiety of 33% at the time of diagnosis, 24% after three months from diagnosis, and 48% and after a year of diagnosis. The prevalences in the second to fifth year were 25%, 23%, 22%, 15%, and 45%, respectively, after the diagnosis of recurrent breast cancer. The inadequate diagnosis of major depression may lead to lowered quality of life, long duration of hospital stay, and poor adherence to therapeutic plans.²

The depression experienced by women suffering from breast cancers may be related to some factors such as younger age, the administration of chemotherapy, effects of chemotherapy (e.g. its effect on fertility, health problems related to early menopause), neuroimmune effects, self blaming (due to the lack of coping skill, anxiety about health and therapy, inability to express emotion, and delay of medical consultations), poor acceptance and compliance for carrying out adjuvant therapy, impairments in physical functions (easily exhausted, cognitive dysfunction, pain), health status, parents' role, social role and quality of life.^{3,4,5} Those conditions bring impacts to family especially to spouse which 20-46% will suffer from psychological vulnerability and emotional

imbalance that they may also lead to lowered quality of life of the family and caregiver.^{4,6}

Sexual function is also an aspect of quality of life that is easily overlooked in breast cancer sufferers as compared to procedures and protocols of chemotherapy especially in patients with advanced stage. Expert medical personnel mostly focus only on therapeutic plans while sexual problems rarely being sought. In addition, the culture and the lack of knowledge concerning sexual changes during cancer therapy medication also create a barrier for communicating sexual problems to expert doctors. This lead to disappointments in many patients due to the lack of information, support, and practical strategies provided by experts when assisting the patients to deal with sexual changes and intimacy during the course of cancer that may affect the overall quality of life.⁷

One study done on the correlation of symptoms of depression and sexual function was conducted by Speer *et al.*, (2005) with cross sectional design involving 55 women suffering from breast cancer. Measurement tools employed were FSFI, *Hamilton Depression Inventory* (HDI), *Body Image Survey* (BIS), and *Marital Satisfaction Inventory-Revised* (MSI-R). The result stated that no difference was found among the type of cancer therapy, level of hormones, and sexual functions. The level of relationship distress in breast cancer patients was the most affecting variable in the arousal of orgasm, lubrication, sexual satisfaction and sexual pain. Depression had negative correlation with the lowered sexual passion or interest ($r=-0.31$; $p<0.05$). Older patients experienced less lubrication and more sexual pains. Patients taking antidepressant experienced arousal disturbance (5.33 times; $p<0.03$) and orgasmic disturbance (5.89 kali; $p<0.02$) as compared to patients who did not take antidepressant.⁸

Other research conducted by Capodice *et al.*, (2008) involving 117 women suffering from early stage breast cancer showed abnormal *Female Sexual Functioning Index* (FSFI) score which revealed disturbances in passion of 43%, arousal (54%), lubrication (62%), orgasm (46%), satisfaction (50%), pain (63%). No differences were found among races and ethnic groups. Multivariate analysis of linear regression revealed sexual dysfunctions based on the low FSFI was

significantly correlated with the non-married state ($p=0.02$), *postmenopause* ($p=0.05$) (regardless of the late or early onset) and receiving adriamycin-based chemotherapy ($p=0.03$). No significant differences existed among ages, BMI, or the type of hormonal therapies.⁹

Can *et al.*, (2008) also conducted research with cross sectional design, descriptive and correlation, involving 40 breast cancer patients and 40 healthy women. The participants were provided with the instruments *Beck Depression Inventory* (BDI) and *Female Sexual Function Index* (FSFI). Breast cancer patients receiving systemic chemotherapy appeared to have worse sexual life as compared to healthy women. Variable with the most significant effect among breast cancer patients for the occurrence of sexual dysfunction was the level of depression with negative correlation ($r=-0.42$; $p=0.007$). The *cut off point* of FSFI used was < 26.55 .¹⁰

This research was aimed to determine the correlation between the symptoms of depression and sexual function in breast cancer patients receiving chemotherapy.

II. METHODS

A. Hypothesis and Study Design

It is hypothesised that there is negative correlation between symptoms of depression and sexual function in breast cancer patients undergoing chemotherapy. The study design was cross sectional study conducted by assessing the symptoms of depression with Beck Depression Inventory score and sexual function with Female Sexual Function Index score. *Consecutive sampling method* was employed.

B. Place and Time of Study

The research was conducted in Tulip policlinic Dr. Sardjito General Hospital started from March 2011.

C. Participants

- 1) Participants were breast cancer patients in stage I-III undergoing adjuvant chemotherapy according to protocol for minimal 1 cycle and doing follow up visits in Tulip outpatients Cancer Clinic in Dr. Sardjito Hospital Yogyakarta.

- 2) The inclusion criteria were women suffering from breast cancer stage I-III age 18-55 years old who had received adjuvant chemotherapy for a minimum of 1 cycle with Karnofsky index of $> 60\%$, married, and had sexual partner who living within the same house, speaking Indonesian, communicative and having minimum education level of elementary school and had consented to participate in the research. The exclusion criteria in this research was patients taking antidepressants and antihypertensive therapy.

The participants who have met the requirements of inclusion, exclusion criteria and willing to follow the study were given Beck Depression Inventory (BDI) questionnaires to assess symptoms of depression and Female Sexual Function Index (FSFI) questionnaires with brief interview to assess of sexual function.

D. Statistical Analysis

Statistical analysis with Spearman's correlation test was conducted to analyze the correlation between depression symptoms and sexual function. Depression symptoms were assessed using *Beck Depression Inventory* (BDI) consisting of 21 questions with a cut off of 16. *Sexual function* was assessed with the *Female Sexual Function Index* (FSFI) instrument consisted of 19 questions with 85% sensitivity, 77% specificity with *cut off* score of having sexual dysfunction by less

than < 26.55 .¹¹ The FSFI instrument consisted of 6 domains which were sexual passion, arousal, lubrication, orgasm, satisfaction, and pain. Each domain was multiplied by certain factor with maximum score of 36.^{11,12,13}

III. RESULTS

Thirty eight patients met the inclusion criteria. Participants came from Java especially Daerah Istimewa Yogyakarta (DIY), Central Java, and surroundings. The patients were 46-55 (55.2%), followed by 36-45 years old (39.5%) and 26-35 (5.3%). The mean age of the research subjects was 45.4 ± 6.5 years old. Patients had no comorbidities such as diabetes mellitus and hypertension. This research has higher percentage as compared to research published by Can *et al.*, (2008), which stated an age of 40-49 of 43% and Speer *et al.*, (2005) which stated the age 50-59 as most prevalent with a percentage of 46.6%.⁸

Participants' highest educational level was 26.3% high school graduates and university graduates. This showed that most research subjects were well educated.

Participants with income of more than one million rupiahs were 26 subjects (68.4%). Mean BDI score was 9.3 ± 7.94 and mean FSFI score was 22.6 ± 8.58 . There were 16 (57.9%) participants who did not experience sexual dysfunction (FSFI ≥ 26.55), while 22 (42.1%) others had sexual dysfunction (FSFI < 26.55). Subjects' characteristics were presented in table 1.

Table 1. Subject characteristics

Characteristic	n	%	Mean (minimum-maximum)
Age (years old)			45.4 ± 6.5 (29-55)
26-35	2	5.3	
36-45	15	39.5	
46-55	21	55.2	
Education			
Elementary school	7	18.4	
Junior highschool	4	10.6	
Highschool	10	26.3	